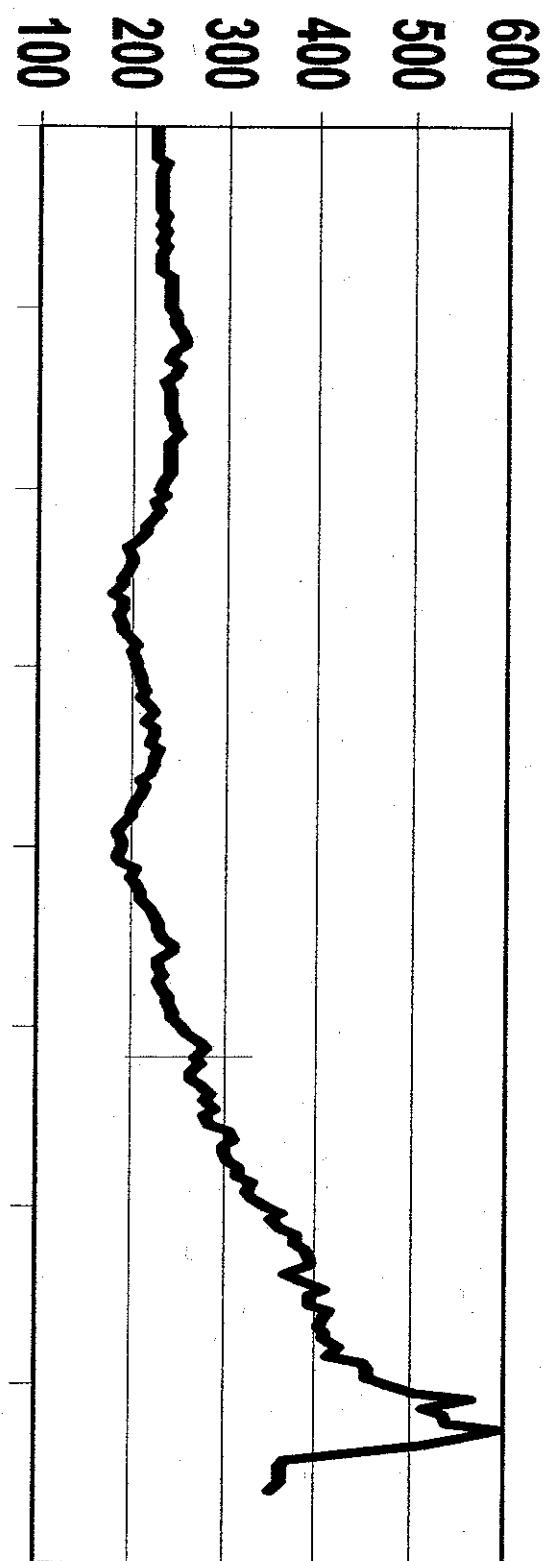
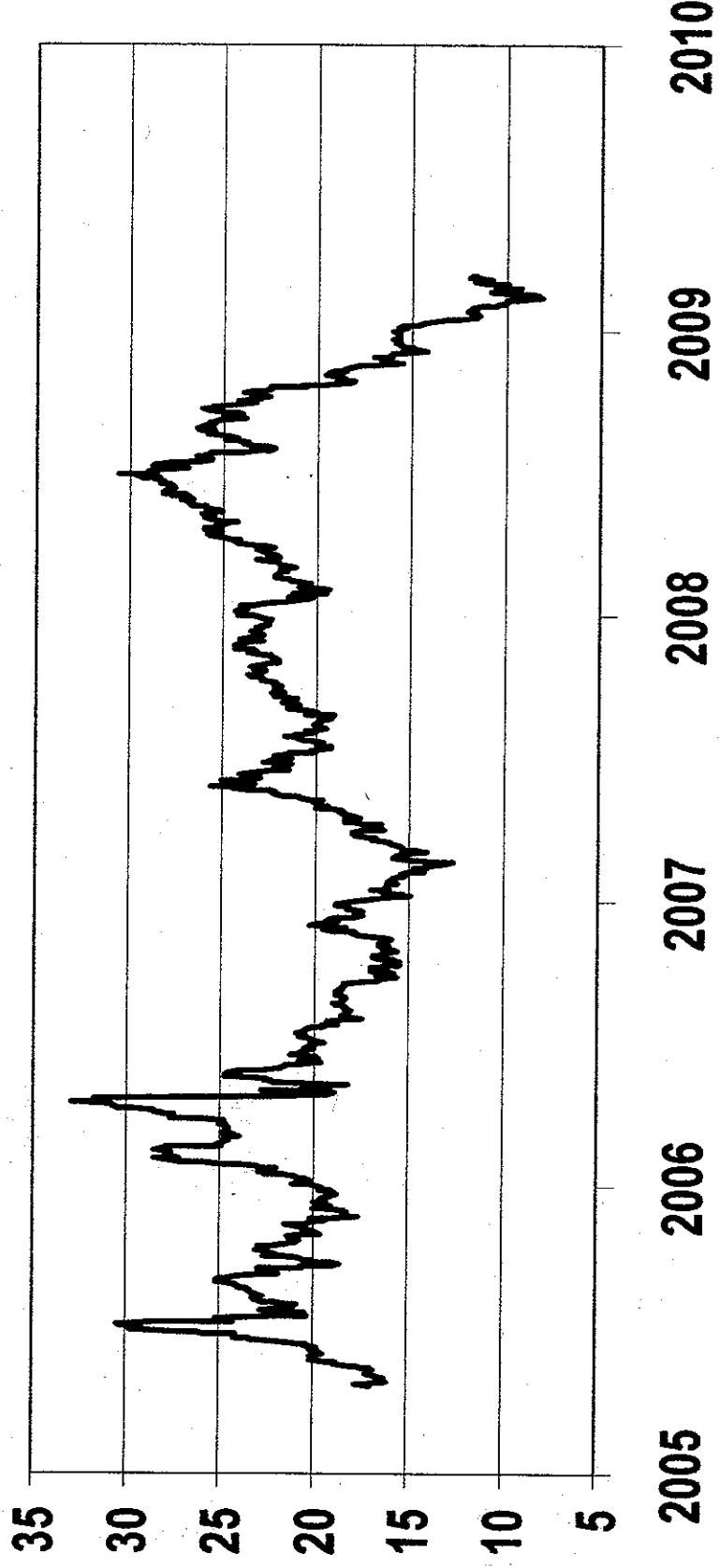


# A Broad Index of Commodity Prices



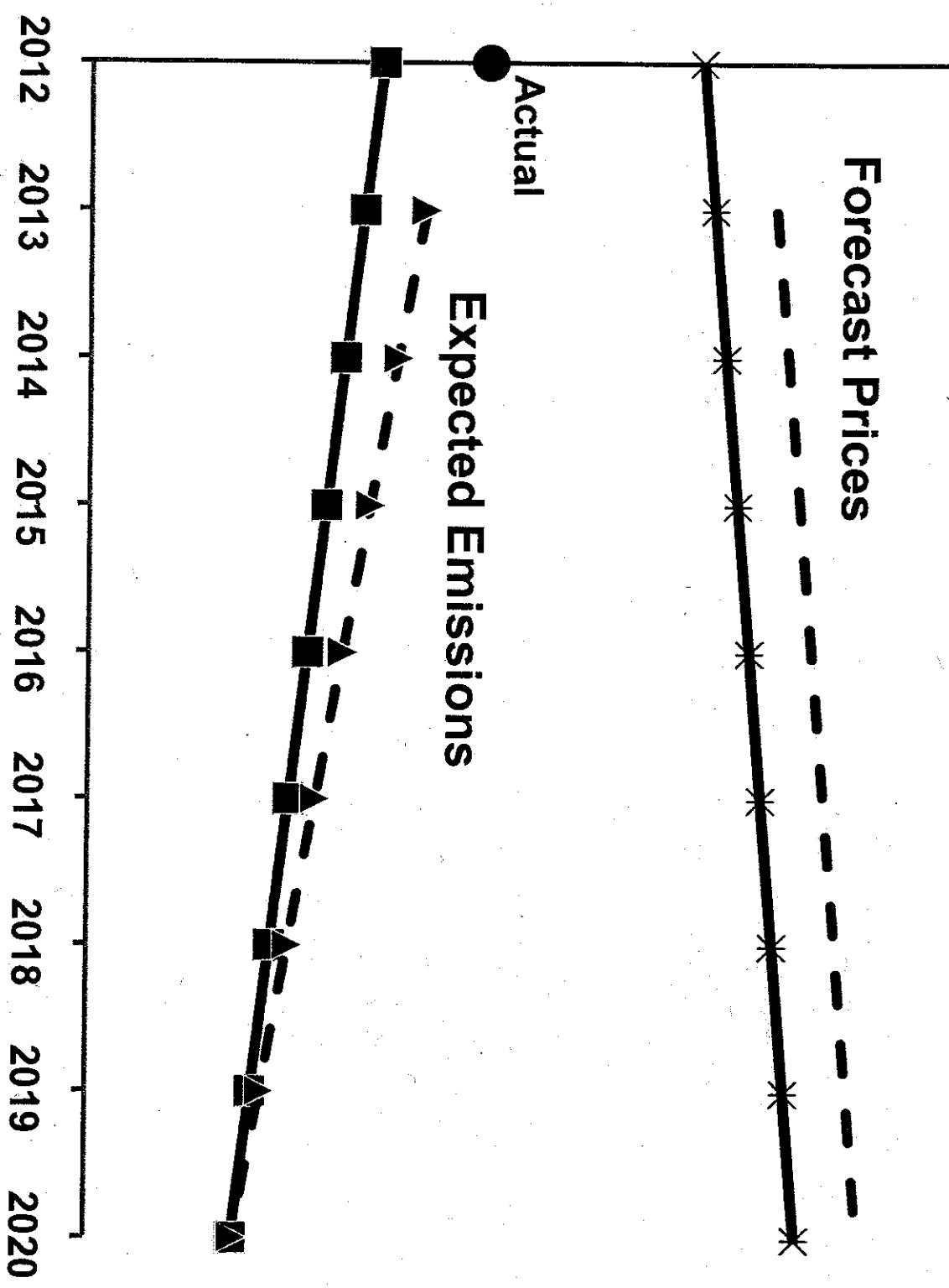
Source: Reuters-Jefferies (month end CCI index)

## EU CO<sub>2</sub> Allowance Prices (Euros/ton, Dec. 2009 futures)



Source: European Climate Exchange.

# An Example of the Safe Markets Development Approach



Statement of

Gilbert E. Metcalf  
Professor of Economics  
Tufts University

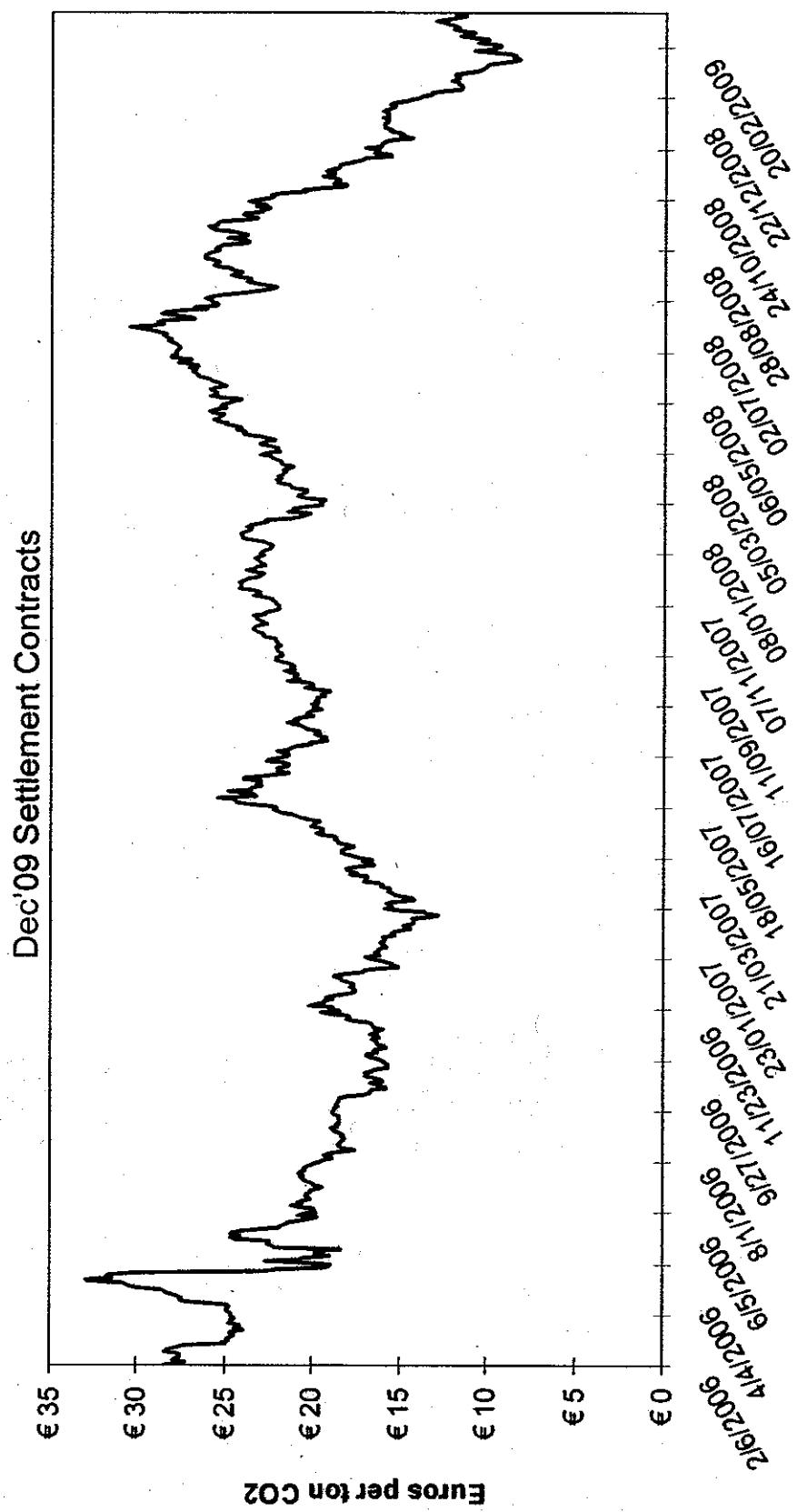
**Price Volatility in Climate Change Legislation**

before the  
Committee on Ways and Means  
U.S. House of Representatives  
March 26, 2009

# Key Points

- Policy should distinguish between short run and long run price uncertainty
- Carbon tax provides the greatest certainty over future price path
- Hybrid policies can bridge the difference between tax and cap-and-trade systems
- Cost containment mechanisms in cap-and-trade may have unintended consequences

# Price Volatility in the EU-ETS



Source: European Climate Exchange

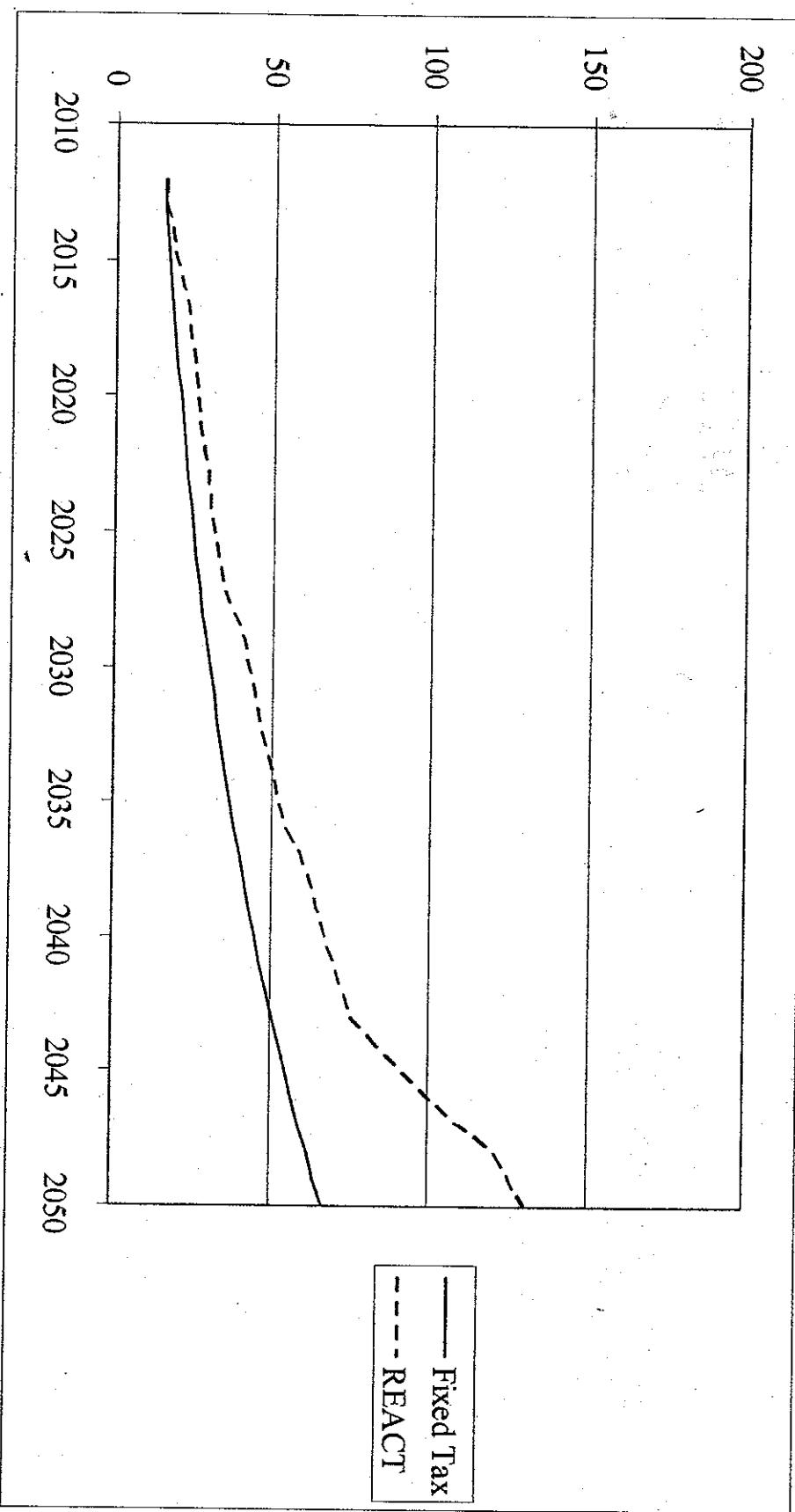
# Cost Containment

- Safety valve approach is transparent
  - Potential arbitrage opportunity in anticipation of future tightening of policy
- Allowance reserve is a restricted safety valve
  - Less transparent
  - Effectiveness may be undermined by strong demand for banking

# Responsive Emissions Autonomous Carbon Tax (REACT)

- An initial tax and standard growth rate for the tax
- Benchmark targets at set intervals for cumulative emissions over the control period
- Exceeding the target in benchmark years triggers an increase in the growth rate of the tax to a higher catch-up rate until cumulative emissions fall below the target again.

# Sample Price Path



# Benefits of REACT

- Short run price volatility eliminated
- Uncertainty over long run price path reduced
- Transparent mechanism for price changes
- Emission targets over the control period are maintained

# Summary

- Policy should focus on eliminating short run price volatility
- A carbon tax provides the greatest certainty over future carbon prices
- REACT: a tax based approach that ensures long run emission targets are met

